Proceeding: 2024 General Rate Case
Application: A.22-05-015/016
Exhibit: SCG-322/SDG&E-320

HEARING EXHIBIT OF

SOUTHERN CALIFORNIA GAS COMPANY

AND

SAN DIEGO GAS & ELECTRIC COMPANY

(2024 GRC Hydrogen Roadmap)

JUNE 20*23*

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Response to ALJ Hearing Request

On June 8, 2023, during evidentiary hearings, Administrative Law Judge (ALJ) Lakhanpal asked SoCalGas and SDG&E to provide certain information, as follows:

> So I'm going to ask Sempra Utilities to provide us a list, which is like a mapping document, listing their hydrogen-related projects and the related exhibits where all that information is provided and the associated dollars, which can be broken down as capital or O&M; and if they can let me know by tomorrow, close of business, by when that information will be available, or if they have any clarifying questions as they start mapping for that data.[1]

In response to this request for data, SoCalGas and SDG&E respond by providing the following "Hydrogen Projects Roadmap."

Post-Test Year Hydrogen Explanation

The Hydrogen Projects Roadmap provided by SoCalGas and SDG&E reflects the current O&M expense (2024) and direct capital (2022-2024) cost forecasts being requested in the test year (TY) 2024 GRC proceeding. The TY 2024 GRC applications of SoCalGas and SDG&E were filed in May 2022 and the most recent data available at the time of preparing and filing the applications was 2021 or base year data. As newer data becomes available throughout the GRC process, that data is typically provided, such as 2022 in this instance. The 2022 forecasts may differ (higher or lower) from the 2022 recorded expenditures. While the information is provided, SoCalGas and SDG&E generally do not update their forecasts for the recorded data (except as provided in the GRC Rate Case Plan, *see* Decision (D.) 07-07-004 at A-36), including for the 2022 data that was served on March 13, 2023. As the Commission stated in D.19-09-051 at 60, "we find that it is not feasible to constantly update data for the entire application. It is also not practical to update all data in the GRC because of the vast amounts of data included in the application." Accordingly, there is no formal true-up within the proceeding.

SoCalGas and SDG&E are required by the Rate Case Plan to forecast TY 2024 O&M expenses and 2022-2024 direct capital costs, all of which contribute to the test-year revenue requirement. No specific O&M or capital projects are explicitly forecasted for the post-test year (PTY) period. The only exceptions are the projects included in the current PTY capital exception proposal because of the magnitude or regulatory mechanism associated with those projects. The PTY mechanism, as proposed in Exhibits SCG-40-2R and SDG&E-45-R, calculates SoCalGas and SDG&E revenue requirement at the total company level using a two-part escalation based mechanism on: (1) total O&M and (2) 5-year capital average. The PTY ratemaking mechanism proposed in this GRC is consistent with the formulaic mechanism adopted in D.19-09-051 and other Commission precedent.[2] As also addressed in Exhibit SCG-40-S/SDG&E-45-S, both the O&M and capital-related revenue requirements use high level company data that do not include specific project level detail. The PTY mechanism is designed to provide the level of revenue requirement, not direct spending, necessary to support important safety, reliability, and technology investments in the PTY period. As such, the utilities manage their business at the authorized revenue requirement level adopted in the GRC for the PTY period.

Because SoCalGas and SDG&E do not forecast or seek GRC funding for specific projects, with limited exceptions, in the post-test years, the requested direct hydrogen-related project and program dollars are not available or applicable for the post-test years, as shown in the table as "N/A." This type of requested information would need to be created and would not help the Commission reach a determination on the record issues regarding post-test year ratemaking.

[1] Reporters' Transcript V7:1311:7-15 (Lakhanpal) (June 8, 2023).
[2] *See, e.g.*, D.20-01-002 at 8 ("The post-test year revenue requirements are typically determined by: (1) escalating the test year O&M expenses, and (2) authorizing capital expenditures at a level determined by either (i) applying additional escalation factors, or (ii) further review of the applicant utility's actual capital budgets for those years.").

						2024 GRC Test-Year Period				2024 GRC Post Test-Year Period			
Hydrogen Project Name	**Description**	**Witness**	**Exhibit Number**	**Sponsoring Testimony**	**Workpaper Reference**	**O&M 2024 (Direct, $MM)**	**Capital 2022 (Direct, $MM)**	**Capital 2023 (Direct, $MM)**	**Capital 2024 (Direct, $MM)**	**2025**	**2026**	**2027**	**Notes**
SCG Hydrogen Fueling Stations	Cost related to hydrogen refueling station at Pico Rivera for SoCalGas hydrogen powered fleet and public access.	Brenton K. Guy, Armando Infanzon	SCG-19-R-2E, SCG-12-R	Real Estate and Facilities Operations - Capital Costs (See Clean Energy Innovations for project justification)	Exhibit SCG-19-CWP-00734A- Hydrogen Refueling Stations	0	0.621	20.739	8.415	N/A	N/A	N/A	
SCG Hydrogen Home	The [H2] Innovation Experience (H2IE), formerly known as [H2] Hydrogen Home is a demonstration project that integrates renewable hydrogen production and fuel cell technology with a renewable energy stand-alone power system in a microgrid setup. The H2IE project will help demonstrate and advance the development and adoption of a portfolio of sustainable energy solutions needed to benefit ratepayers, provide end users with relevant energy choice options based on their individual requirements and support local grid resilience and reliability needs. The H2IE microgrid has renewable energy generated from rooftop solar photovoltaics, which is also used to produce green hydrogen from an electrolyzer. Excess renewable energy is also stored for non-sunshine hours usage as onsite battery energy storage. The green hydrogen is stored in a high-pressure storage vessel and is distributed within the microgrid as a blended fuel for use as a direct fuel for appliance testing.	Brenton K. Guy, Armando Infanzon	SCG-19-R-2E, SCG-12-R	Real Estate and Facilities Operations - Capital Costs (See Clean Energy Innovations for project justification)	Exhibit SCG-19-CWP-006550.004-[H2] Hydrogen Home	0	4.573	0	0	N/A	N/A	N/A	
SCG Hydrogen Blending Roadmap	Hydrogen blending costs are primarily focused on the efforts to implement Operational Readiness to prepare SoCalGas and SDG&E for the potential introduction of hydrogen into existing infrastructure.	Maria Martinez	SCG-07-R	Gas Engineering	SCG-07-WP-R at 43 (2200-1178) and at 112-113 (2200-0300)	1.801	0	0	0	N/A	N/A	N/A	
SCG Hydrogen Fleet	Leasing costs for hydrogen vehicles	Michael Franco	SCG-18-R-E	Fleet Services	SCG-18-WP-R-E SoCalGas Fleet Workpaper 2RF003.001 Existing Fleet Leases & Fees at 22 (unit# 15336 to 15358) and Workpaper 2RF004.000- Zero Emission Vehicles & Renewable Natural Gas Vehicles at 176-177 (unit# 15050 to 15217)	1.558	0	0	0	N/A	N/A	N/A	
SCG Honor Rancho Compressor Modernization - Advanced Renewable Energy (ARE) Component	The Honor Rancho Compressor Modernization Project includes an ARE component to further reduce GHG emissions and support climate conservation goals: Produce green hydrogen through electrolysis (powered by renewable grid electricity), blend green hydrogen with natural gas as combustion fuel for new compressors, install a hydrogen fueling station for SoCalGas fleet vehicles (non-public facing), onsite above-ground hydrogen storage.	Steve Hruby	SCG-10-R	Gas Storage	Direct Testimony, SCG-10-R, Appendix E	0	0	0	0	0	0	0	Please refer to Ex. SCG-10-R Appendix E (Figure HRCM-3) for the forecasted Honor Rancho Compressor Modernization Advanced Renewable Energy (ARE) Component forecast. These forecasted capital costs are presented for informational purposes only and will be formally requested in the 2028 GRC due to the timing of the estimated completion date. This project is not included in the 2024 GRC test-year or PTY revenue requirement.
The activities listed below are an aggregate of sustainability activities and costs that include hydrogen activities but are not exclusive to hydrogen. These aggregated O&M costs support diverse clean energy solutions including clean hydrogen, renewable natural gas (also referred to as biogas and RNG), synthetic natural gas (also referred to as syngas and SNG), and biofuels. The exact amount of hydrogen costs cannot be isolated.													
SCG Clean Fuels Transportation Program	Customer support for evolving H2 economy and other renewable fuels.	Brian Prusnek	SCG-16-E	Customer Services - Information	SCG-16-WP-R-E at 26 Testimony SCG-16-E at 45-47	0.6	0	0	0	N/A	N/A	N/A	
Sustainability	Sustainability activities and costs pertaining to the planning, developing, and tracking near and long-term environmental, social, and governance (ESG) business strategies and implementation of sustainable business practices to optimize operational activities that include, as a component, consideration of hydrogen strategies. It works across the Company's organizations to facilitate ongoing discussions, workshops, and cross-functional collaboration, review, implementation of sustainability-related initiatives and goals.	Armando Infanzon	SCG-12-R	Clean Energy Innovations	SCG-12-WP-R-E at 5	1.982	0	0	0	N/A	N/A	N/A	
Clean Fuels Infrastructure Development	Clean Fuels Infrastructure Development activities and costs directly support the Company's goals of developing clean fuels infrastructure to meet SoCalGas's sustainability strategy and climate commitments and California's decarbonization goals that include development and consideration of hydrogen strategies.	Armando Infanzon	SCG-12-R	Clean Energy Innovations	SCG-12-WP-R-E at 13	11.245	0	0	0	N/A	N/A	N/A	
RD&D	SoCalGas's RD&D Program is a balanced program that plays a key role in the research, development, and demonstration of transformational products and technologies that promote decarbonization across the energy delivery value chain and a diversified portfolio of clean energy sources, distributed networks, tools, and applications that includes hydrogen.	Armando Infanzon	SCG-12-R	Clean Energy Innovations	SCG-12-WP-R-E at 41	10.52	0	0	0	N/A	N/A	N/A	

A.22-05-015/-016 SoCalGas and SDG&E 2024 GRC: Hydrogen Projects Roadmap - SDG&E

Response to ALJ Hearing Request

On June 8, 2023, during evidentiary hearings, Administrative Law Judge (ALJ) Lakhanpal asked SoCalGas and SDG&E to provide certain information, as follows:

> So I'm going to ask Sempra Utilities to provide us a list, which is like a mapping document, listing their hydrogen-related projects and the related exhibits where all that information is provided and the associated dollars, wl broken down as capital or O&M; and if they can let me know by tomorrow, close of business, by when that information will be available, or if they have any clarifying questions as they start mapping for that data.[1]

In response to this request for data, SoCalGas and SDG&E respond by providing the following "Hydrogen Projects Roadmap."

Post-Test Year Hydrogen Explanation

The Hydrogen Projects Roadmap provided by SoCalGas and SDG&E reflects the current O&M expense (2024) and direct capital (2022-2024) cost forecasts being requested in the test year (TY) 2024 GRC proceeding. The TY 20 applications of SoCalGas and SDG&E were filed in May 2022 and the most recent data available at the time of preparing and filing the applications was 2021 or base year data. As newer data becomes available throughout the GR data is typically provided, such as 2022 in this instance. The 2022 forecasts may differ (higher or lower) from the 2022 recorded expenditures. While the information is provided, SoCalGas and SDG&E generally do not update the the recorded data (except as provided in the GRC Rate Case Plan, *see* Decision (D.) 07-07-004 at A-36), including for the 2022 data that was served on March 13, 2023. As the Commission stated in D.19-09-051 at 60, "we find th to constantly update data for the entire application. It is also not practical to update all data in the GRC because of the vast amounts of data included in the application." Accordingly, there is no formal true-up within the proceedin

SoCalGas and SDG&E are required by the Rate Case Plan to forecast TY 2024 O&M expenses and 2022-2024 direct capital costs, all of which contribute to the test-year revenue requirement. No specific O&M or capital projects forecasted for the post-test year (PTY) period. The only exceptions are the projects included in the current PTY capital exception proposal because of the magnitude or regulatory mechanism associated with those projects. The PT proposed in Exhibits SCG-40-2R and SDG&E-45-R, calculates SoCalGas and SDG&E revenue requirement at the total company level using a two-part escalation based mechanism on: (1) total O&M and (2) 5-year capital average ratemaking mechanism proposed in this GRC is consistent with the formulaic mechanism adopted in D.19-09-051 and other Commission precedent.[2] As also addressed in Exhibit SCG-40-S/SDG&E-45-S, both the O&M and capit requirements use high level company data that do not include specific project level detail. The PTY mechanism is designed to provide the level of revenue requirement, not direct spending, necessary to support important safety, re technology investments in the PTY period. As such, the utilities manage their business at the authorized revenue requirement level adopted in the GRC for the PTY period.

Because SoCalGas and SDG&E do not forecast or seek GRC funding for specific projects, with limited exceptions, in the post-test years, the requested direct hydrogen-related project and program dollars are not available or applic test years, as shown in the table as "N/A." This type of requested information would need to be created and would not help the Commission reach a determination on the record issues regarding post-test year ratemaking.

[1] Reporters' Transcript V7:1311:7-15 (Lakhanpal) (June 8, 2023).
[2] *See, e.g.,* D.20-01-002 at 8 ("The post-test year revenue requirements are typically determined by: (1) escalating the test year O&M expenses, and (2) authorizing capital expenditures at a level determined by either (i) applying ad factors, or (ii) further review of the applicant utility's actual capital budgets for those years.").

						2024 GRC Test-Year Period			
Hydrogen Project Name	**Description**	**Witness**	**Exhibit Number**	**Sponsoring Testimony**	**Workpaper Reference**	**O&M 2024 (Direct, $MM)**	**Capital 2022 (Direct, $MM)**	**Capital 2023 (Direct, $MM)**	**Capital 2024 (Direct, $MM)**
SDG&E Hydrogen Fuel Cell Electric Vehicles	Lease six hydrogen fuel cell electric vehicles (HFCEV) (three light duty, three medium duty)	Arthur Alvarez	SDG&E-22-R-E	Fleet Services	SDG&E-22-WP-R-2E at 22 (1FS001.004 - Hydrogen fuel-cell vehicles)	0.026	0	0	0
SDG&E Palomar Hydrogen System	Multi-use hydrogen demonstration, including fuel blending for power generation, H2 for generator cooling, and H2 fueling station. O&M associated with the Long Term Service Agreement (LTSA) costs for Palomar Hydrogen Project	Daniel Baerman	SDG&E-14-E	Electric Generation	SDG&E-14-CWP-E at 52-61 (210390.001 - 210390 - PALOMAR HYDROGEN SYSTEMS); and SDG&E-14-WP at 8 (1EG003.000 - Generation Plant Palomar)	0.27	8.423	7.855	0
SDG&E Fleet Hydrogen Fueling	Kearny C&O Center replacement of a CNG fueling station with a hydrogen fueling station to support fleet medium duty HFCEV	Dale Tattersall	SDG&E-23	Real Estate, Land Services and Facilities Operations	SDG&E-23-CWP-R at 341-359	0	0	0.5	6.587
SDG&E Hydrogen Strategy & Implementation Department	Labor and Non-Labor O&M Requests	Fernando Valero	SDG&E-15-R-E	Clean Energy Innovations	SDG&E-15-WP-E at 3-9	1.011	0	0	0
SDG&E Hydrogen Build Ready Infrastructure	Provides for upgrades necessary to the distribution electric system service infrastructure to support the localized creation of hydrogen via electrolysis for up to five customer sites for the purpose of supporting clean, hydrogen-based transportation in SDG&E's service territory.	Fernando Valero	SDG&E-15-R-E	Clean Energy Innovations	SDG&E-15-CWP-E at 71-76 (212680 - HYDROGEN BUILD READY INFRASTRUCTURE)	0	0	0.77	1.155
SDG&E Moreno Compressor Modernization - Advanced Renewable Energy (ARE) Component	The Moreno Compressor Modernization Project includes an ARE component to further reduce GHG emissions, reduce reliance on conventional electric power supply, and support climate conservation goals: Produce green hydrogen through electrolysis (powered by renewable grid electricity), blend green hydrogen with natural gas as combustion fuel for new compressors, install a hydrogen fueling station for Company fleet vehicles (non-public facing), onsite above-ground hydrogen storage, and a renewable electricity microgrid consisting of hydrogen fuel cells and photovoltaic for onsite electricity generation with an energy storage system.	Steve Hruby	SDG&E-06	Gas Transmission	Direct Testimony, SDG&E-06, Appendix B	0	0	0	0
SDG&E Hydrogen Energy Storage System Expansion	Expand hydrogen fuel cell capacity and hydrogen storage to allow for 8 hours of long duration storage at the Borrego Springs Microgrid, and deploy atmospheric water generators to relieve the water demand for hydrogen production.	Fernando Valero	SDG&E-15-R-E	Clean Energy Innovations	SDG&E-15-CWP-E at 81-90 (212720 - Hydrogen Energy Storage System Expansion)	0	0	5.171	0.081